AMENDMENTS TO THE SPECIFICATION

Please delete the heading on page 2, between lines 7 and 9 (numbered lines 8 and 10) as follows:

~~SUMMARY OF THE INVENTION~~

Please add a heading on page 2, between lines 24 and 25 (numbered lines 25 and 26) as follows:

SUMMARY

Please replace the paragraphs on page 3, line 7 - page 4, line 26 with the following:

According to ~~the first aspect~~ a first embodiment of the present invention, the above-mentioned object is accomplished by a cross member arranged so as to extend in a width direction of a vehicle body, having both ends connected to side framework structures of the vehicle body, the cross member comprising: a base frame extending in the width direction; and reinforcing frame parts formed in integral with the base frame to cover the circumference of the base frame within limited ranges thereof in the width direction of the vehicle body, wherein the base frame and the reinforcing frame parts are made from a same resinous material or plural resinous materials belonging to a same material system.

According to the ~~present invention of the first aspect, since~~ first embodiment, as the cross member's parts (i.e., the base frame covered with the reinforcing frame ~~parts~~ parts) have respective double layer structures each comprising the base frame and each of the reinforcing frame parts, these cross member's parts can be provided with high strength in comparison with the other parts of the cross member. Additionally, if it is required to break up the so-completed cross member for recycling, it is possible to break up the cross member by a common recycling ~~process since~~ process, as the base frame and the reinforcing frame parts are made from resinous materials belonging to the same material system. Consequently, it is possible to provide the cross member's parts that are required to have high

strength, with high strength. Additionally, the so-completed cross member is superior in recycling efficiency.

According to ~~the second aspect~~ a second embodiment of the present invention, there is also provided a manufacturing method of a cross member ~~which~~ that is arranged so as to extend in a width direction of a vehicle body, having both ends fixed to side framework structures of the vehicle body, the method comprising: forming a base frame extending in the width direction of the vehicle body by means of resinous molding; and insert-molding the base frame, within limited ranges thereof in the width direction of the vehicle body, with resinous material belonging to the same material system as material of the base frame, thereby forming reinforcing frame parts in integral with the base frame.

According to the ~~present invention of the second aspect as well, since~~ second embodiment, as the cross member's parts (i.e., the base frame covered with the reinforcing frame ~~parts~~ parts) have respective double layer structures each comprising the base frame and each of the reinforcing frame parts, these cross member's parts can be provided with high strength in comparison with the other parts of the cross member. Additionally, if it is required to break up the so-completed cross member for recycling, it is possible to break up the cross member by a common recycling process since the base frame and the reinforcing frame parts are made from resinous materials belonging to the same material system. Consequently, it is possible to provide the cross member's parts that are required to have high strength, with high strength. Additionally, the so-completed cross member is superior in recycling efficiency.

Please replace the paragraph on page 5, lines 7-8 (numbered lines 8-9) with the following:

Fig. 3 is a perspective view of a cross member in accordance ~~with an~~ with a first embodiment of the present invention;

Please replace the paragraph on page 5, lines 17-18 (numbered lines 18-19) with the following:

Fig. 7 is a perspective view showing a cross member in accordance with ~~the first~~ a second embodiment of the present invention;

Please replace the paragraph on page 6, lines 9-10 with the following:

Fig. 16 is a perspective view showing the end of the base frame in accordance with ~~the second~~ a third embodiment of the present invention;

Please replace the paragraphs on page 7, lines 2-18 with the following:

As shown in Figs. 3 and 4, a cross member 1 includes a base frame 2, a first reinforcing frame part 3 and a second reinforcing frame part 4 all formed in one body. The base frame 2 is arranged on the backside of an instrument panel (not shown) of a vehicle so as to extend in the width direction of the vehicle. Within a range of a driver's seat in the width direction of the base frame 2, the first reinforcing frame part 3 is arranged so as to cover the circumference of the base frame 2. On the opposite side of the first reinforcing frame part 3, the second reinforcing frame ~~part 3~~ part 4 is arranged so as to cover the circumference of the base frame 2 at its end.

The base frame 2 has a cylindrical shape to have a hollow part 2a inside. The base frame 2 is provided, on both sides thereof, with openings 2b, 2b communicating with the hollow part 2a. ~~Since~~ As the openings 2b, 2b are respectively connected ~~with duct~~ with a duct pipe (not shown), the hollow part 2a constitutes part of an air-conditioning duct (not shown). At a substantial intermediate position of the base frame 2 in the width direction of the vehicle, a duck bracket and a component-attachment bracket (both not shown) are arranged to fix the air-conditioning duct.

Please replace the paragraphs on page 8, line 14 – page 10, line 7 with the following:

The materials of the base frame 2 and the first and second reinforcing frame parts 3, 4 will be described below. The base frame 2 and the first and second reinforcing frame parts 3, 4 are made from the same engineering plastic material or plural engineering plastic materials that are resinous materials belonging to the same material system. In detail, the base frame 2 is formed by an engineering plastic material containing glass fiber of 15 to 50 % content, of which elasticity is more than 10 GPa at absolute dry and 5 GPa at wet. For example, the base frame 2 may be formed of ~~As this engineering plastic material, there are recommended~~ polypropylene (PP), nylon 6 (PA6), nylon 66 (PA66), aromatic nylon (aromatic PA), polybutylene terephthalate (PBT), polyphenylene oxide (PPO), polyphenylene sulphide (PPS), liquid crystal polyester (LCP), polyimide (PI), sheet molding compound (SMC), polyester or alloys of some of these materials. ~~As the~~ Moreover, the reinforcing material (filling material), ~~there may be adopted, besides the~~ may be formed of glass fiber, talc, carbon fiber, Kevlar fiber, ceramic fiber, metal fiber (stainless steel etc.), natural fiber (chaff, coconut husk, kenaf, etc.) or combinations of these compounds.

~~While, the~~ The first and second reinforcing frame parts 3, 4 are formed of ~~respectively formed by~~ an engineering plastic material containing glass fiber of 30 % or more content, of which elasticity is more than 25 GPa at absolute dry and 20 GPa at wet. That is, the first and second reinforcing frame parts 3, 4 are ~~made from~~ made from a material of high rigidity in comparison with the base frame 2. For example, the first and second reinforcing frame parts 3, 4 may be made of ~~As this engineering plastic material, there are recommended~~ polypropylene (PP), nylon 6 (PA6), nylon 66 (PA66), aromatic nylon (aromatic PA), polybutylene terephthalate (PBT), polyphenylene oxide (PPO), polyphenylene sulphide (PPS), liquid crystal polyester (LCP), polyimide (PI), sheet molding compound (SMC), polyester or alloys of some of these materials. ~~As the~~ Moreover, a reinforcing material (filling material), ~~there may be adopted, besides~~ may be formed of the glass fiber, talc, carbon fiber, Kevlar fiber, ceramic fiber, metal fiber (stainless steel etc.), natural fiber (chaff, coconut husk, kenaf, etc.) or combinations of these compounds.

Alternatively, although possibly reducing mutual adhesiveness and recycling efficiency, ~~as the materials of~~ the base frame 2 and the first and second reinforcing frame ~~parts 3, 4,~~ parts 3, 4 may be formed of base polymers belonging to the same material system ~~may be used in view of mutual adhesiveness and recycling efficiency~~.

According to this embodiment, it is possible to construct the member's parts of the reinforcing frame parts 3, 4 with remarkable high strength. Thus, ~~since the~~ as the first reinforcing frame part 3 is arranged on the driver's seat ~~side where~~ side (where it is required to fix the column ~~shaft,~~ shaft), it is possible to provide a steering support member with high rigidity in spite of the cross member 1 being made of resin. Additionally, it is possible to form the side bracket part 5 with high rigidity. ~~Since~~ As both ends of the reinforcing frame parts 3, 4 are fixed to the framework structures of the vehicle body, it is possible to improve the strength of the cross member 1 itself. Particularly, the fixing forces of the reinforcing frame parts 3, 4 to the vehicle body are increased to allow in-vehicle parts supported by the parts 3, 4 to be attached to the vehicle body strongly.

Please replace the paragraph on page 11, lines 11-15 with the following:

~~Since~~ As the first and second reinforcing frame parts 3, 4 of the above embodiment are formed by high-rigidity ~~materials in~~ materials (in comparison with the base frame ~~2, the parts 2, 4~~ 2) the reinforcing parts 3, 4 can be constructed with remarkable high strength. Accordingly, it is possible to support the column shaft 11 etc. certainly.

Please replace the paragraph on page 12, lines 15-24 with the following:

In the abovementioned embodiment, the first and second reinforcing frame parts 3, 4 are produced in the general injection molding in which a part of the base ~~frame 3, 4~~ frame 2 is inserted in a molding die and melt material is compressed into the closed molding die. The first and second reinforcing frame parts 3, 4 can be also produced by injection compressive molding or injection press molding and the like, in which melt material is injected into a molding die having a slight clearance, then compressive force is applied to the melt material. With this type of injection molding, the first and second reinforcing frame parts 3, 4 can be molded without applying a large injection force to the base frame 2.

Please replace the paragraphs on page 13, line 12 (numbered line 13) – page 14, line 23 with the following:

As shown in Fig. 7, a cross member 110 of the second embodiment is formed by, in detail, a steering member that is arranged between the lower parts of front pillars in front of a vehicle cabin to extent in the width direction of the vehicle, for supporting the steering column and the instrument panel. The cross member 110 includes a base frame 111 spreading over the whole width of the vehicle cabin in the width direction of the vehicle and a reinforcing frame part 112 that reinforces the base frame's part extending from the lower part of the front pillar (driver's seat side) to the vicinity of the steering column to support the steering column. As shown in Fig. ~~8 as a~~ 8, which is a sectional view taken along a line 8-8 of Fig. 7, both of the base frame 111 and the reinforcing frame part 112 are shaped to have oval sections. In arrangement, the base frame 111 is inserted inside the reinforcing frame part 112 to mutual fixation.

As shown in Fig. 9, the cross member 110 comprises a lid member 113 on the left side, the above base frame 111 and the reinforcing frame part 112. The reinforcing frame part 112 is joined to the base frame 111 so as not to detach the former from the latter; nevertheless Fig. 9 shows the base frame 111 being separated from the reinforcing frame part 112 for the sake of explanation. For the function of a duct member of an air conditioner (not shown), the base frame 111 is hollow-shaped and connected to the air conditioner in the vicinity of the intermediate position in the width direction. In this view, the base frame 111 is provided, on both sides thereof, with holes 117, 118 for blowing out air into the vehicle cabin. Similarly, the reinforcing frame part 112 is also provided with a hole 112b for overlapping the ~~hole 118~~ hole 117 of the base frame 111. The lid member 113 has an attachment part 113a formed to be fixed to the lower part of the front pillar on the passenger's ~~assistant driver's~~ side.

In Fig. 9, the base frame 111 has a plurality of bosses 114 formed to project from the outer surface of the frame's part to be covered with the reinforcing frame part 112. Each of the bosses 114 is shaped to be a general column. Further, as representatively shown in Fig. 12, the bosses 114 (only one shown) are formed so as to extend in the vertical direction in view of facilitating removal of molding dies after molding. As shown in Fig. 10, the bosses 114 are arranged in different positions in the axial direction of the base frame 111. In other words, ~~the single~~ only one boss 114 is present in each of radial cross sections shown with broken lines in the figure.

Please replace the paragraph on page 15, line 19 – page 16, line 7 with the following:

Fig. 13 is a sectional view showing the base frame 111 and the interior of a molding die 121 accommodating the base frame 111 therein. The molding die 121 comprises an upper die 123 having its upper surface provided with a gate port 122 and a lower die 124 to be disposed below the upper die 123. As shown in Fig. 13, when the molding die 121 is in its closed condition while accommodating the base frame 111 therein, its part (on the driver's seat side) is accommodated in the molding die 121, while the other part of the frame 111 is arranged to project from the molding die 121. Again noted that the interior of the base frame 111 is shaped to be hollow including the frame's part accommodated in the molding die 121. In the molding die 121, respective tips of the bosses 114 are brought into contact with an inner surface 125 of the die 121. That is, there is defined a cavity 126 between the inner surface 125 of the molding die 121 and the base frame 111. The height of the cavity 126 is substantially equal to that of the ~~boss 144~~ boss 114 and also the thickness of the reinforcing frame part 112.

Please replace the paragraphs on page 16, line 16 – page 17, line 23 with the following:

According to the cross member 110 of the second embodiment, ~~since~~ as the bosses ~~114 of the substantial same height~~ 114, which have substantially the same height, come into contact with the inner surface 125 of the molding die 121, there is no possibility that the base frame 111 moves in the diametral direction during the inpour of the molten resin 127 into the molding die 121. Therefore, it is possible to provide the reinforcing frame part 112 with a substantial constant thickness in the circumferential direction.

Additionally, owing to the provision of the bosses 114 of plural number, the resultant reinforcing frame part 112 is firmly engaged with the base frame 111 through the bosses 114. Therefore, it is possible to enhance both torsion rigidity and flexural rigidity of the base frame 111 against the reinforcing frame part 112. Again, ~~since~~ as the bosses 114 are shaped to be substantially columnar ~~respectively~~, the flowability of the molten resin 127 is not greatly influenced, thereby ~~influenced so much,~~ allowing the molten resin 127 to spread effectively through the ~~out the~~ cavity 126 in the molding die ~~121 effectively. Regarding~~ 121.

However, the profile of the boss 114, ~~it is not~~ is not limited to ~~a substantial column in the shown example only. Thus, if only a profile that would not cause the flowing resistance of the molten resin 127 to be increased,~~ the shown substantially columnar structure. Rather, the profile must only prevent an increase in the flowing resistance of the molten resin 127. Accordingly, the boss 114 may be shaped to be a regular polygon in section.

According to the second embodiment, ~~since~~ as the reinforcing frame part 112 is provided to reinforce the base frame 111, it is possible to improve the mechanical strength of the steering member (on the driver's seat side) requiring both bearing rigidity and function as a duct. Additionally, ~~since the~~ although reinforced portion 112 is no more than part of the base frame ~~111 in spite of using~~ 111 (and may be made of fiber reinforced resin more advantageous in strength than the resin forming the base frame ~~111, it~~ 111), it is possible to ~~suppress~~ limit an increase in the manufacturing cost of the cross member 110 that might otherwise result due to its increased weight and material~~, to the utmost~~.

Further, ~~since~~ as the bosses 114 on the base frame 111 are engaged with the inner surface of the reinforcing frame part 112, it is possible to improve the joining strength between the base frame 111 and the reinforcing frame part 112 through the bosses 114. In addition, ~~Also noted that~~ the bosses 114 further serve to enhance both torsion rigidity and flexure rigidity of the whole cross member 110.

Please replace the paragraphs on page 17, line 25 (numbered line 26) – page 18, line 11 with the following:

Next, the third embodiment of the present invention will hereafter be described ~~below~~. Note, in the third embodiment, elements identical to those elements in the second embodiment will be indicated with the same reference numerals ~~respectively and~~ and, therefore, their overlapping descriptions are ~~eliminated~~ omitted.

According to the third embodiment, as shown in Fig. 16, a base frame 151 is provided, on its outer surface, with bosses 154 and ribs 153 connecting the bosses 154 with each other. Each rib 153 is arranged so as to connect the adjoining bosses 154, 154 with each other. A plurality of triangular areas 155 are defined by these ribs 153. As shown in Fig. 17, the rib 153 ~~has a~~ have a height that is lower than the boss 154. In detail, the former height is half the height of the latter.

Please replace the paragraphs on page 18, lines 17 – page 18, line 1 with the following:

As shown in Fig. 19, after the molten resin 127 has gone solid, the reinforcing frame part 152 is formed outside the base frame 151. In the reinforcing frame part 152, its outer ~~surface 151a~~ surface is level with the tip of the boss 154.

As a reference shown in Fig. 20, it is noted that if the molten resin is poured outside a base frame 160 having no rib, then there arises the possibility that a thin sidewall 161 of the base frame 160 ~~is collapsed~~ may collapse inwardly by a molding pressure F applied on the frame 160. However, as shown in Fig. 21, ~~since~~ as the base frame 151 of this embodiment is provided with the ribs 153, there is no possibility of collapse in the sidewall of the base frame 151 due to its improved rigidity against the molding pressure F.